South Carolina State Parks

ARCHNEWS

SOUTH CAROLINA STATE PARKS ARCHAEOLOGY NEWSLETTER

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Charles Towne Landing Archaeology Update

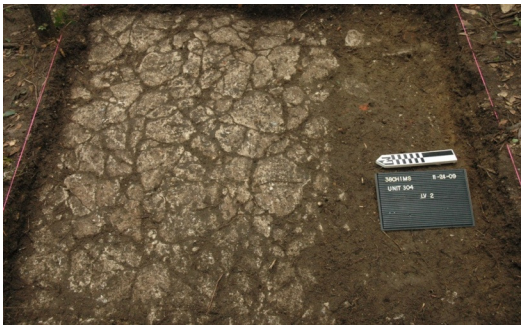
Archaeologists at Charles Towne Landing are now investigating a new spot they refer to as the "Miller Site". Within the first couple of weeks of excavation, the site yielded a promising spectrum of colonial ceramics and other exciting artifacts.

The Miller Site is aptly named after Johnny Miller, who conducted preliminary excavations in the area in the late 1960s. Even though he was not a professional archaeologist, he located a number of important remains and left behind a field journal documenting his work. Since his primary focus lay elsewhere on the park, he left most of this site unexcavated.

In fall 2009, archaeologists decided to revisit this location in order to gain an understanding of the nature of the site and its relationship with the rest of the colonial remains on the park. The first couple of units uncovered brick and mortar rubble as well as artifacts dating to late 17th- early 18th centuries. Later on, the crew discovered a tabby floor, supporting the theory that there may be buried structural remains in the area. The extent of the floor is still being investigated.

The ceramics include combed-and-trailed and dotted slipware, blue-on-white delft, North Devon gravel tempered pottery, salt glazed stoneware, and colonoware. The abundance of wine bottle fragments and tobacco pipe pieces is consistent with Miller's notes.

One of the special pieces recovered is a pipe bowl fragment with a maker's mark. The mark bears the name of H. EDWARDS, a Bristol pipemaker in the early 1700s. The date of this pipe fragment is consistent with the pottery assemblage from the site. Excavations also yielded smaller finds, such as glass beads and lead shots. Archaeologists are planning to wrap up the field season in late January and move into the lab to catalog and study their finds. They are expecting to return to the site in the spring. ■



Tabby floor at Charles Towne Landing.

Inside this issue:

Upcoming Events

Day in the Life of a Colonist

Charles Towne Landing State Historic Site

February 13, 2010

11:00 AM - 4:00 PM

For questions and submissions, please contact:

djones@scprt.com

Colonial Dorchester Archaeology Update

This past November, Colonial Dorchester began its process for a major renovation. The State Park Service partnered with Mongo Homes to build a new managers residence outside the town's archaeological footprint. The old residence is a 1960s forestry house that currently resides on lot 103 of the 1697 Congregationalist town. The old residence will be dismantled piece by piece to ensure the protection and perseveration of the archaeological record. The removal will not only allow visitors to visualize the town without clouding the view shed with modern infrastructures, it will also give archaeologists the opportunity to study the resources found within the lot boundaries.

Currently no known archaeological investigations have occurred on lot 103, but in time we will be able to piece together the archaeological record with the written historical documents, and have a better idea of the activities on the lot.

This season's archaeological fieldwork was a continuation of the 2006 excavations on lot 15. Dr. Pradeep Talwani, a seismologist from USC, believed the area associated with the Woodstock fault could provide valuable evidence of geologic features associated with the earthquake of 1886. With Talwani's research objects in mind, archaeologists began mitigating the area. A trench was placed near the western portion of the bluff and stretched approximately 15 meters east. The archaeological record proved to be very shallow; most artifacts were found within the first 15 centimeters of excavation. Could this have been in part caused by long habitation by the residence in the area?

The eastern side of the trench contained darker soils and the soil texture was also less dense than the western end. The artifact assemblage for the eastern end was light, containing mostly architectural items such as nails, spikes and window glass. Could this area be the interior of the structure?

The western side of the trench had very compact soils, and contained many more everyday use items such as bottle glass and ceramics. Since a road did not exist in this area, it may have been a heavily used work-space or the exterior of a structure. Most ceramics were mostly thin walled high quality porcelains, and heavy earthenware utilitarian vessels. Other evidence this was a work yard was the size of the artifacts; everything was very small. It is possible that the majority of large household items that became trash make their way down the side of the bluff, out of sight and out of the way.

Once all archaeological contexts within the trench were mitigated, Dr. Talwani began his research, sighting a sand blow well below the cultural context layer. This is a common occurrence during seismic activity, where the ground movement causes the soil to become liquefied and it erupts through the ground surface. Because of its depth, however, it is unlikely the blow ever made it to surface.

The 2006 findings intrigued archaeologists and three additional 1x1 meter units were strategically placed to find additional features associated with the trench. Currently the first 10 centimeters of each unit has been excavated and the artifacts have been sent to the lab for washing and analyzing.

The public is welcome to observe the archaeologists at work at Colonial Dorchester State Historic Site on Saturdays form 10 am to 2pm. The park is located at 300 State Park Road on the Ashley River in Summerville. The e-mail address is colonialdorchester@scprt.com . The phone number is 843-873-7475. On the Web, the park is at www.SouthCarolinaParks.com.■

Tools of the Trade

Electrolysis and metal conservation

Metal artifacts, such as nails, hinges, locks, arms, or personal ornaments, are fairly common at historical sites. While metals in archaeological contexts stand the test of time better than organic materials, their chemical integrity is compromised as a result of the conditions of the soil that surrounds them for decades. It is sometimes a challenge for archaeologists and conservators to properly care for such objects and reverse the effects of the environment.

A Roman coin with bronze disease.

Archaeological sites can yield a large variety of metal types. The most common types recovered are iron, lead, and copper alloys such as bronze. These metals corrode in different ways and require specific treatments depending on the soil conditions and the percentage of components in alloys. For example, iron artifacts are usually covered with an uneven layer of orange rust, whereas copper alloys grow a green corrosion product. These different types of corrosion are the metals' way of adapting to their new buried conditions. Once a certain level of modification is reached, these metal objects somewhat stabilize as long as they remain buried and the soil specifications do not change drastically. When a metal object is uncovered, the adaptation process will start over in order to acclimatize to the new environment. If archaeologists do not halt the deterioration at this sensitive stage, the object may be severely damaged. For instance, copper alloys can start growing a bright green, powdery substance when they are suddenly exposed to moisture and oxygen. This reaction, known as *bronze disease*, can eat away the metal in just a few weeks. Bronze disease can be arrested temporarily by drying the artifact at low heat or soaking it in distilled water, but these actions may have adverse effects as well. The disintegration of the artifact will continue until the object is chemically treated by an experienced conservator. Further complications may arise if the artifact has inlays, gilding, or plating.

A common technique used by conservation labs for removing corrosion is electrolysis. The basic principle behind electrolytic cleaning is using electricity to separate corrosion from the core metal. In this system, metal artifacts are placed in a conductive solution called the electrolyte. The artifact is connected to the negative terminal with wires, while the positive terminal is represented by a steel plate. When electricity is introduced to this environment, chlorides separate from the artifact and travel towards the positively charged metal. This process can take a couple hours or months, depending on the size of the artifact, the type of metal it is made of, and the level of corrosion. Small objects made of copper alloys, such as bronze furniture tacks, can be cleaned in a couple hours whereas large ferrous objects like cannons require months of treatment.

Even though electrolysis removes the corrosion from the artifacts, further steps are necessary to stabilize the metal and make sure that the deterioration process does not start over as soon as

the object is removed from the electrolysis tank. Once again, the type of metal is the decisive factor in choosing the next step. Iron artifacts are dried, brushed with an acid solution that provides a

Above: An iron nail before conservation.
Below: An iron nail after electrolysis and wax.

corrosion- resistant layer, and dipped in microcrystalline wax. The wax film acts as a sealant and protects the object from humidity. Bronze artifacts are usually rinsed, dried, treated with corrosion inhibitors, polished, and coated with clear acrylic lacquer. As a last step, a catalog number may be applied over a patch of lacquer.

It is important to note that any treatment applied to an artifact must be reversible. The films applied to the surface must be either soluble or removable by heat. If the object is broken and needs mending, only soluble glues should be used. All markings should be applied over lacquer, so that when the lacquer is removed the writing will come off. If these parameters are not followed, objects may be damaged beyond repair. ■

Further Reading:

Hamilton, D. L. *Methods of Conserving Archaeological Material from Underwater Sites.* http://nautarch.tamu.edu/crl/conservationmanual/ (12/09/2009).

Sease, C. 1994. *A Conservation Manual for the Field Archaeologist*. Los Angeles: Institute of Archaeology, UCLA.

Sutton, M. and B. Arkush. *Archaeological Laboratory Methods: An Introduction.* Dubuque: Kendall/Hunt.

Ask an Archaeologist

Q: How do archaeologists locate a site or pick a spot to dig?

A: Unfortunately, in real life, there is no giant X marking the spot. Archaeologists usually have to rely on scientific methods and sampling strategies that reveal artifact or feature concentrations.

Sometimes historical accounts or oral traditions will lead archaeologists to a certain location. A good place to start is observing the land formations and plant life at this potentially significant area. Raised areas and sunken or soft soil can signal underground disturbances. In some cases, the relative growth rate of certain plants provide archaeologists with clues. Aerial photography or satellite imagery can offer additional help. As the next step, archaeologists may choose to conduct non-intrusive field surveys, which consist of walking in a grid and recording any artifacts that may lie on the surface.

Dr. Scott Harris of the College of Charleston with a GPR unit at Charles Towne Landing.

There are a number of geophysical mapping technologies that can help detect buried features or other anomalies. The survey results can be generated into maps or images. One such system commonly used by archaeologists is Ground Penetrating Radar (GPR), which pulsates radar signals into the ground. These signals return to the transmitter in different ways if they meet features underground.

Archaeologists usually dig preliminary "shovel tests" before they embark on a full scale excavation. These small shovel test units are often laid out in a grid at regular intervals over the entire site. After all the shovel tests are completed, archaeologists can determine the date range and the artifact density of the site before they lay out larger units. ■

Featured Article

Exploring the Political Landscape of Old Towne Plantation at Charles Towne Landing

By Elizabeth Ilderton

Introduction

To the Europeans of the 16th and 17th centuries, the Americas seemed an expansive realm of possibilities where the settlers set upon manufacturing their image of an 'ideal' based upon their societal views. From the very beginning, the landscape of the Carolinas mirrored the political contest for dominance. Whether Native American, African Slave, European Founder, or English Colonist, each group affected the face of the landscape by settling upon the land in different ways. In the end the Planter's vision succeeded in this multicultural contest over the dominance as described by S.M. Edelson as their "practical command of the land and their willingness to absorb lessons from those they displaced, enslaved and overthrew to plant it" (2006).

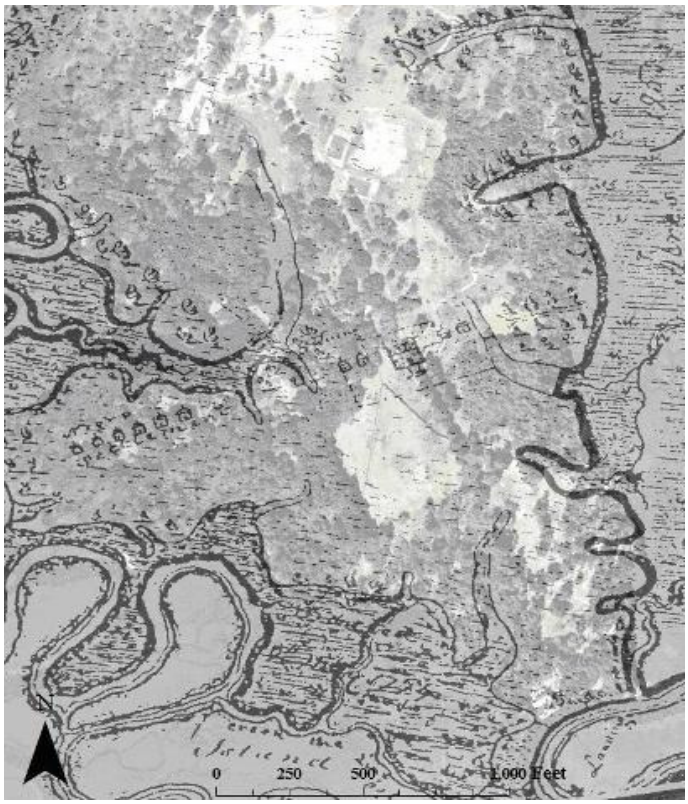
Project

From May to September of 2009, I sought to explore the political importance of landscape construction under the plantation period in the Carolina Lowcountry by looking at Old Towne Plantation and the relationship between its slaves and owners. The objectives of this project were to:

- Locate the Plantation Period 'Negro Settlement' belonging to Old Towne Plantation using map regression techniques and a Ground Penetration Radar (GPR) survey.
- Complete a virtual reconstruction of Old Towne Plantation using ESRI ArcScene 9.3 in order to bring the historic landscape to life.

The project was separated into three components: Documentary Research, Field Research, and Model Creation and was completed as a master's thesis for the University of Birmingham in the United Kingdom.

Documentary Research



The 1836 Plat georeferenced to an aerial photograph of Charleston County, portraying the plantation house and the outbuildings as well as a row of six houses labeled as the "negro settlement" to the west of the main compound .

This phase of the project focused mainly on the study of historic maps pertaining to the site. To study these maps, I included what is known as *map regression* where historic maps are compared to each other starting with more modern maps such as military ordnance surveys or aerial photographs. This enables us to virtually go back in time to earlier maps in order to locate the 'Negro Settlement' and understand the changes that have taken place over

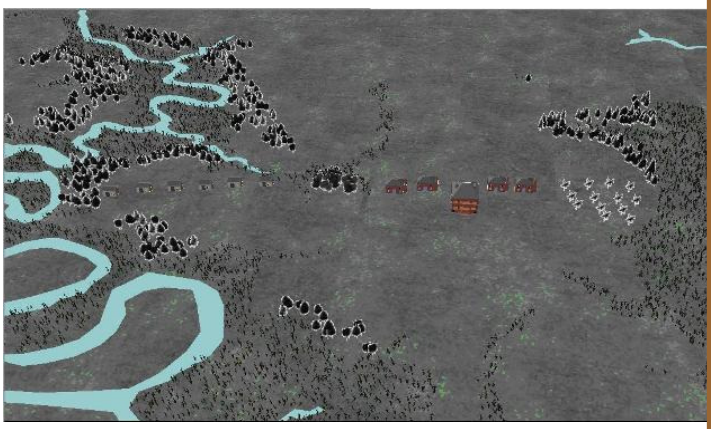
the landscape throughout time. The primary software used for this purpose was ESRI ArcGIS 9.3, a computer mapping system in which various types of information can be incorporated together on one plane. Thus, I was able to take historic maps that I had scanned and 'georeference' them. The act of georeferencing takes the coordinates of a paper map and places them into a real world context through a complex mathematical process. By doing so and comparing our finds to previous archaeological study at the site, we were able to ascertain an area of interest for further study with a GPR survey.

Field Research

Elizabeth Ilderton and Suzanne Johnson, looking for traces of the slave houses with GPR.

The Field Research phase of this project consisted of a Ground Penetration Radar (GPR) survey in hopes of finding either foundations or fragments of foundations pertaining to the 'Negro Settlement' buildings. GPR surveys provide a rich source of information including precise depth measurements and three-dimensional views of the subsurface by pulsing electro-magnetic waves through the ground from an antenna. The survey was carried out over a two-day period in June 2009 and consisted of surveying two study areas: Area 1 measuring 80ft x 80ft and Area 2 measuring 80ft x 50ft. Although, this block was considered to be a possible location for the 'Negro Settlement', the signals from the survey were not strong enough for any type of positive definition.

Modeling Old Towne Plantation



A birds eye view of Old Town Plantation based upon the 1836 Plat.

The last phase of this project consisted of creating a working three-dimensional model of Old Towne Plantation based upon the 1836 Plat. An important part of understanding archaeological landscapes involves the interpretation of landscape features that were present in the landscape at a given time. Virtual reconstructions allow the research to move outside the confines of traditional study by allowing them to study the importance and science of sight within a landscape, the way space was utilized in historic and ancient landscapes, and how buildings and different landscapes interacted with each other over a wider area. The creation of the Old Towne Plantation model was based upon historical documentation in the form of written and oral accounts, maps, and available archaeological data. ESRI ArcScene 9.3 was utilized to create this model which allows the viewer to walk or fly through the landscape. Additionally more advanced analytical functions can be applied to obtain information not readily available through excavation or field research alone.

Discussion

The main reason for performing this research was to reconstruct the 'Negro Settlement' within the political context of the plantation in order to understand the complex relationship between Master and Slave on the Southern Plantation. When looking at the Sothern Plantation it is important to

note that there are three distinct groups seeking political autonomy within the plantation landscape: the master, skilled laborers, and field hands. The master, whose actions were the most apparent within the landscape, sought to flaunt his power and money by building grand houses on prominent ground. On the other hand, the slave house was the center of a complex and often contradictory social relationship that arose between the master and slave (J.M. Vlach 1995). The houses could be placed in the forefront of the plantation landscape to portray power and wealth. In a hypocritical sense of humanity, they were usually well built and neat. If they were of no such consequence, they were usually hidden from sight and built of rougher materials. This tells us much about particular plantations, their importance, and the relationships between master and slave. The layout of the plantation landscape made a physical certainty of the bondage of slave to master. It portrayed the fact that although the slaves had a cultural sphere of their own, this space was granted solely out of the discretion and desire of their master. However, the slaves were able to mold this symbiotic relationship to their advantage by establishing a black cultural domain where they were able to create family ties, art and develop religious traditions that are still present in the 'Gullah-Gechee' society today. ■

Further Reading:

Chapman, H. 2006. *Landscape Archaeology and GIS.* Gloucestershire: Tempus Publishing Limited.

Edelson, S.M. 2006. Plantation Enterprise in Colonial South Carolina. Cambridge: Harvard University Press .

Vlach, J.M. 2006. "Snug Li'l House with Flue and Oven": Nineteenth-Century Reforms in Plantation Slave Housing". *Perspectives in Vernacular Architecture,* Vol. 5, Gender, Class, and Shelter. pp 118-129. Vernacular Architecture Forum (08/06/2009).

Meet an Archaeologist

Ashley Chapman

Growing up in a historic town like Charleston, Ashley Chapman acquired an appreciation of history at an early age. "I remember an old oak tree in our backyard. After heavy rains, there would always be artifacts lying about its roots," says Chapman. He remembers wondering what they were, who left them there, and why they were left behind. These questions sparked an interest in history and archaeology, which put him on the path to his current occupation as the manager of Colonial Dorchester State Historic Site.

Ashley has been an archaeologist for 25 years. He majored in anthropology at the University of South Carolina and later received a master's degree in historical archaeology from the University of West Florida. "All periods speak to me," Ashley says, although he considers his expertise to be early colonial America. He is currently excavating late 17th-early 18th century Colonial Dorchester, where his specialty is much appreciated.

Reflecting on his earlier days in archaeology, he recalls working on a 1781 Revolutionary War British ship while studying at the South Carolina Institute of Archaeology and Anthropology. The ship, sitting on the bottom of the Cooper River, had a fully charged cannon, with the tampion still in place. Seeing an artifact exactly the way it was left behind impressed upon him the importance of preserving our past. He now sees rediscovering and protecting South Carolina's past as one of the most important aspects of his job. "It is vital that we invest in history and archaeology today," Ashley says. "The return on that investment is knowledge available to future generations." ■

Digs Around the World

NEWS !

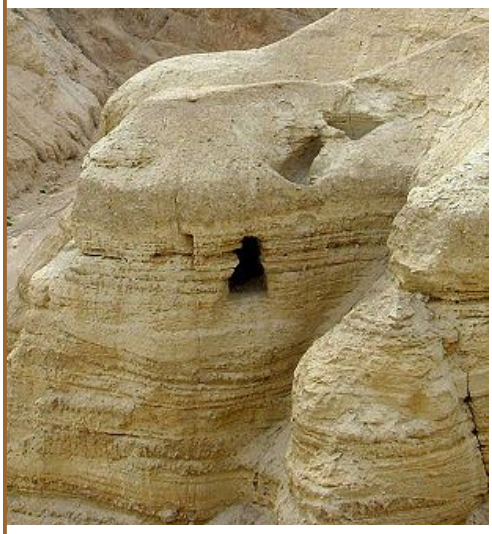
- The city of St. Augustine, FL, launched a website devoted entirely to their archaeology program. The website has valuable information for archaeologists and historians, as well as information on archaeological zones, permits, and investigation fees. http://www.digstaug.org/index.cfm
- National Geographic News announced its "Top Ten Archaeology Finds" of 2009, according to which online article attracted the most viewers. The winner: the discovery of a gold-rush era "ghost ship" *A. J. Goddard*. http://news.nationalgeographic.com/news/2009/12/091207-top-ten-archaeology-finds-2009.html

  This discovery did not make it to *Archaeology* magazine's "Top 10 Discoveries of 2009". Among the contenders in this list is the discovery of a rich tomb of a Moche lord in Peru. http://www.archaeology.org/1001/topten/

- British archaeologists are planning on digging at New Place, the Stratford-upon-Avon house where Shakespeare died in 1616. The team is hoping that archaeology will "ultimately advance our learning and thinking about Shakespeare." http://www.culture24.org.uk/history+%2526+heritage/literature+%2526+music/art73655

William Shakespeare

- Google Street View has added Pompeii to the list of cities you can stroll through, giving tourists and educators an opportunity to take virtual tours of the ancient city. The Italian Culture Ministry is hoping to boost tourism with this new online application. http://news.bbc.co.uk/2/hi/europe/8394384.stm
- A team of scientists led by Dr. Joao Zilhao of Bristol University is studying shells recovered from a Neanderthal site in Spain. According to their results, the shells contain yellow and red pigments that might have been used as body paint or cosmetics by Neanderthals. "The association of these findings with Neanderthals is rock-solid and people have to draw the associations and bury this view of Neanderthals as half-wits," Dr. Zilhao said in an interview. http://news.bbc.co.uk/2/hi/science/nature/8448660.stm



Qumran caves, where the Dead Sea Scrolls were discovered.

- Jordan has filed a formal complaint with the UN, asking for the return of the Dead Sea Scrolls. Officials argued that the scrolls were seized illegally by Israel during a conflict between the two countries in 1967. "The government has legal documents that prove Jordan owns the scrolls," officials say. http://www.google.com/hostednews/afp/article/ALeqM5j4Lm1ed__c-wKiQ_t-9Af70OIMSw
- An Australian team of archaeologists and researchers found the remains of the first plane ever taken to Antarctica. The plane was part of an Antarctic expedition in 1912, but it broke down due to the extreme temperatures. The expedition leader, Douglas Mawson, had hoped to use the motor of the plane to tow gear. The Mawson's Huts Foundation is also hoping to conserve the huts Mawson and his team of explorers built for the expedition. http://news.discovery.com/history/antarctica-plane-expedition.html